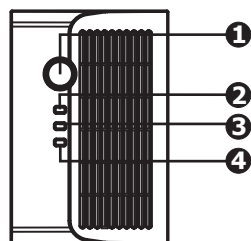


1 Product Introduction

Atom is a compact unit which combines both benefits of UPS and inverter for long-time operation. With built-in voltage stabilizer, it works as a UPS to accept wide input voltage range and convert to stable and pure power source to the connected devices. Besides, it also can provide stable power to a various of electronic devices from personal computers, energy saving bulbs, television, to small inductive devices such as fans. It is perfect choice for home owners or small office users in the unstable power area.

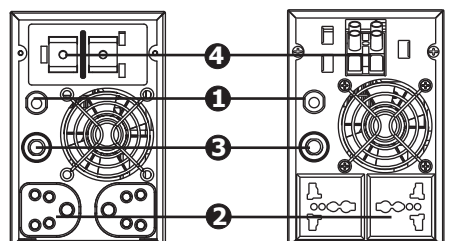
2 Product Overview

Front View:



- ① Power switch
- ② Line mode indicator: green lighting
- ③ Battery mode indicator: yellow flashing
- ④ Fault indicator: red lighting

Back View:



- India Type
- Universal Type
- ① AC input
- ② Output receptacles
- ③ Circuit breaker
- ④ External battery terminal

3 Important Safety Warning

(SAVE THESE INSTRUCTIONS)

Personnel Precaution -

CAUTION! Careful to reduce the risk or dropping a metal tool on the batteries. It could spark or short circuit the batteries and could cause an explosion.

CAUTION! Remove personal metal items such as rings, bracelets, necklaces, and watches when working with batteries. Batteries can produce a short circuit current high enough to make metal melt, and could cause severe burns.

CAUTION! Avoid touching eyes while working near batteries.

CAUTION! Have plenty of fresh water and soap nearby in case battery acid contacts skin, clothing, or eyes.

CAUTION! NEVER smoke or allow a spark or flame in vicinity of a battery.

CAUTION! If a remote or automatic generator start system is used, disable the automatic starting circuit or disconnect the generator to prevent accident during servicing.

CAUTION! The unit is designed for indoor use. Do not expose this unit to rain, snow or liquids of any type.

CAUTION! To reduce risk of injury, only use qualified batteries from qualified distributors or manufacturers. Any unqualified batteries may cause damage and injury. Do NOT use old or overdue batteries. Please check the battery type and date code before installation to avoid damage and injury.

WARNING! It's very important for system safety and efficient operation to use appropriate external battery cable. To reduce risk of injury, external battery cables should be UL certified and rated for 75°C or higher. And Do not use copper cables less than 10AWG.

Table 1 Minimum Recommended Battery Cable Size versus Length

| | Typical Amp. | 1 meter (one-way) | Dia-mm |
|----------|--------------|-------------------|--------|
| Atom 600 | 50 A | AWG 8 | 6.0 |

CAUTION! Do not disassemble the inverter. Contact with the qualified service center when service or repair is required.

WARNING! Provide ventilation to outdoors from the battery compartment. The battery enclosure should be designed to prevent accumulation and concentration of hydrogen gas at the top of the compartment.

CAUTION! Use insulated tools to reduce the chance of short-circuit when installing or working with the inverter, the batteries, or other equipments attached to this unit.

CAUTION! For battery installation and maintenance, read the battery manufacturer's installation and maintenance instructions prior to operating.

4 Specifications

| Model | Atom 600 |
|------------------------------|------------------------------|
| CAPACITY | 600 VA / 300 W |
| INPUT | |
| Voltage | 230 VAC |
| Voltage Range | 140~300 VAC |
| Frequency | 50 Hz or 60 Hz |
| OUTPUT | |
| Output Voltage (Batt. mode) | ± 10% |
| Frequency Range (Batt. mode) | 50 Hz ± 1 Hz or 60 Hz ± 1 Hz |
| Transfer Time | 13 ms max. |
| Waveform | Simulated Sine Wave |
| BATTERY | |
| Battery Voltage | 12 VDC |
| Maximum Charge Current | 13 A |
| PHYSICAL | |
| Dimension (DxWxH mm) | 358.5 X 96.8 X 146.5 |
| Net Weight (kgs) | 5.8 |
| ENVIRONMENT | |
| Humidity | 0-90 % |
| Temperature | 0-40°C (non-condensing) |

5 Installation

NOTE: Before installation, please inspect the unit. Be sure that nothing inside the package is damaged.



Connect to Utility and Charge

Plug in the AC input cord to the wall outlet. The unit will automatically charge the connected external battery even though the unit is off.

Connect External Battery

Step 1- Take away the cover of external battery terminal.

Step 2- **Following battery polarity guide printed near the battery terminal!**

RED cable to the positive terminal (+);

BLACK cable to the negative terminal (-).

WARNING! Please use the appropriate battery cable. Please refer to **Important Safety Warnings Section** for the details.

Step 3- There are two terminal types.

Type 1: Screw battery cables to terminals with the M5 nuts. Do NOT place anything between the flat part of battery terminal and the battery cable ring terminal, or overheating may occur.

Type 2: Simply screw battery cables to terminal with flat screwdriver. (See Fig. 1)

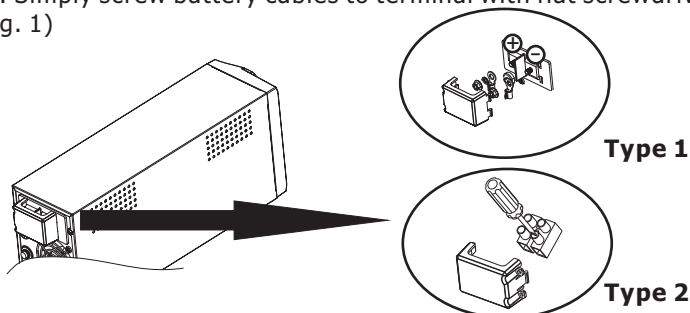


Fig.1 Battery cable connects to the terminal

Step 4- Install a DC Breaker in a positive battery line. The rating of the DC Breaker must be according to the inverter's battery current (50 Amp). Keep the DC breaker off. (see Fig. 2)

Step 5- Connect battery cables to the external batteries.

NOTE: For the user operation safety, we strongly recommend that you should use tapes to isolate the battery terminals before you start to operate the unit.

1)Single battery connection(Refer to Fig. 2): When using a single battery, its voltage must be equal to the Nominal DC Voltage of the unit (see below Table 1).

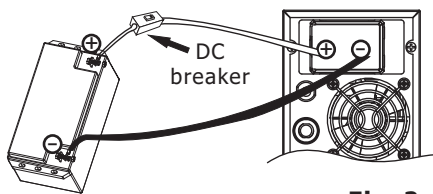


Fig. 2

Table 1

| Model | Nominal Battery DC Voltage |
|----------|----------------------------|
| Atom 600 | 12VDC |

2)Multiple batteries in series connection(Refer to Fig. 3): All batteries must be equal in voltage and amp hour capacity. The sum of their voltages must be equal to the nominal DC Voltage of the unit.

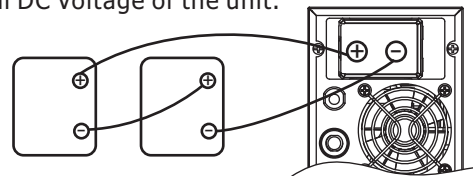


Fig. 3

3)Multiple batteries in parallel connection(Refer to Fig. 4): Each battery's voltage must be equal to the Nominal DC Voltage of the unit.

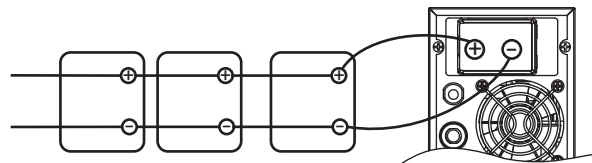


Fig. 4

Step 6- Make sure to connect the polarity of battery side and the unit correctly.

Positive pole (Red) of battery to the positive terminal (+) of the unit.

Negative pole (Black) of battery to the negative terminal (-) of the unit.

Step 7- Put the covers back to the external battery terminals.

Step 8- Take the DC breaker on.

6 Trouble Shooting

Use the table below to solve minor problems.

| Problem | Probable Cause | Solution |
|---|---|---|
| Utility power is normal but the unit is in battery mode. | AC input power cord is not connected well. | Check AC input power connection. |
| | Input breaker is activated. | Reset the input breaker. |
| When power fails, the backup time is shorten. | The unit is overload. | Remove some non-critical loads. |
| | Battery voltage is too low. | Charge the unit at least 8 hours. |
| | Battery capacity is not full even after charge the unit for at least 8 hours. | Check the date code of the battery. If the batteries are too old, replace the batteries. |
| No LED display on the front panel when the utility power is normal. | The unit is not turned on. | Press power switch to turn on the unit. |
| | Battery is not connected well. | Check the external battery cable and terminal. Make sure all the battery connections to the unit are all correct. |
| | Battery defect. | Replace the batteries. |
| | Battery voltage is too low. | Charge the unit at least 8 hours. |